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ABSTRACT

This study examined the degree to which mothers' perceptions of their marital relationships, the support provided to them by their mothers and others, and their adjustment to pregnancy and motherhood, were associated with success at initiating and maintaining lactation during the first year after their child's birth. The incidence and duration of breastfeeding, the nature and frequency of feeding problems, and the sources of help related to breastfeeding were also examined. Data were collected from 32 women through interviews, questionnaires, and observation. The main problem encountered by breastfeeding mothers during the first month after the child's birth was a concern about inadequate milk supply. Husbands and mothers' mothers provided emotional and instrumental support, while doctors and nurses provided information. Mothers who were themselves breastfed nursed their infants more at one month than did mothers who were bottle-fed. Long-term nursers were mothers who: (1) had adjusted optimally to pregnancy and motherhood; (2) most often characterized their marriages as satisfying during the prenatal period and the first year after the child's birth; and (3) were most satisfied with the support their husbands gave them. A copy of the breastfeeding section of the National Health Promotion and Disease Prevention Objectives of the U.S. Department of Health and Human Services is included. (BC)

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CORRELATES OF LONG-TERM BREASTFEEDING: A STUDY OF SOCIAL AND PERSONAL FACTORS

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ABSTRACT

Despite the well-documented nutritional and immunological benefits to the infant of breastfeeding, approximately two-thirds of mothers who initiate breastfeeding are unsuccessful in continuing beyond the sixth postpartum month, or choose to wean their infants prior to developmental readiness. In fact, the incidence of breastfeeding has been on the decline in the US since 1984. This study examined the degree to which mothers' perceptions of their marital relationships, the support provided them by their mothers and others, and their adjustment to pregnancy and motherhood were associated with success at initiating and maintaining lactation during the first year postpartum. Additionally, the incidence and duration of breastfeeding, the nature and frequency of feeding problems, as well as the sources and quality of feeding-related help received by mothers were examined. Mothers in this study showed a similar pattern of breastfeeding incidence and duration as has been established state- and nationwide. The main problem encountered by breastfeeding mothers during the first month was a concern of inadequate milk supply. The type of feeding-related support received varied by source: husbands and (grand)mothers provided the greatest degree of emotional and instrumental support, while doctors and nurses provided more information, which was also associated with success at establishing lactation. Mothers who were themselves breastfed as infants nursed their infants more at one month than those who were bottle-fed. Findings revealed that long-term nursers were those who had adjusted most optimally to pregnancy and motherhood, were most likely to characterize their marriages as satisfying and loving during the prenatal period and throughout the first year, and were most satisfied with the nature and extent of support provided them by their husbands.

INTRODUCTION

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Breastfeeding has been shown to have significant advantages for mothers, infants and society. Human milk, as the species-specific source of infant nutrition, provides for the optimal physiologic state of the infant, and thus promotes optimal growth and prevents disease. Additionally, the breastfeeding experience requires intense maternal-infant contact and interaction, which may in turn actually facilitate early socioemotional development. Beyond its nutritional function, suckling by the infant produces a hormonal state in both mother and infant which positively influences both of their behavior.

Despite the undisputed benefits of breastfeeding, a large percentage of American women choose not to initiate lactation, or breastfeed for only a short time. The incidence of breastfeeding in the U.S. peaked in 1984 and has slowly declined throughout the remainder of the decade. This trend is not compatible with the Surgeon General's Objective for the year 2000 to increase the incidence of breastfeeding to 75% in the newborn period, with 50% of mothers continuing to breastfeed their infants for 6 months.

Although breastfeeding can be initiated by most women who give birth, successful breastfeeding is not an instinctive process for the human mother, and may thus be thought of as a "learned art". To successfully maintain lactation, mothers require considerable information and support. In most traditional societies, the family structure provides mothers with abundant role models and support (both emotional and instrumental), essentially "mothering the mother" during the transition to successful lactation. As a result, infants are breastfed with little difficulty until they reach

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developmental readiness to wean. Women in modern American society, however, tend to lack this traditional support system, and must look to other, less available sources of help if lactation is to be successful. The typical pattern in our society is for mothers to wean infants to bottles in the first few weeks or months of life, prior to developmental readiness, and often contrary to the mother's initial intentions, with various technical problems encountered along the way.

Several factors have been identified as influencing breastfeeding. Support, for one, is frequently mentioned as important to a woman's initiation and persistence in breastfeeding (Bryant, 1982; Baranowski, et al:, 1983; Loughlin, et al., 1985). Several reports indicate that support might differentiate between women able to persist versus those who terminate breastfeeding prematurely. Additionally, the personal characteristics and situations that influence a woman's feeding decision and adjustment to the maternal role may influence her ability to mobilize support.

Understanding factors that promote and enhance lactation is necessary to increase the prevalence of breastfeeding. In particular, the investigation of maternal factors that can be identified during pregnancy or the immediate postpartum period and are conducive to long-term breastfeeding may glean knowledge that will be of value to those assisting mothers during the transitional period, thus promoting successful lactation.

The current study was undertaken to examine the degree to which mother's social and personal characteristics, prenatally and at various points during the first year postpartum, were associated with differences between them regarding their fulfillment of breastfeeding plans and the term of nursing. A primary focus of this examination was mothers' perceptions of the help and support provided them by immediate family members, particularly male partners and mothers' mothers. Given our expectations that mothers' perceptions of their general parenting role should also be relevant, adjustment to pregnancy and motherhood were also examined.

METHODS

Subjects.

Subjects of this study were 32 women and their first-born infants participating in a more extensive longitudinal investigation: the Utah State Infant/Mother Development Project. At enrollment, all women were marrried and in their third trimester of pregnancy and may be characterized by the information presented below.

Demographic Index	Sample mean	Range
Years Married	3	4 mos-8 yrs
Age	23	18-36
Years Education	14	12-19
Annual Family Income	$21,000	3-60,000

84% of subjects were Mormon; 75% of the pregnancies were planned. All but two of the infants were full-term: 1 of these was born 3 weeks premature, the other was SGA. Infant gender was evenly split.

When questioned prenatally, subjects' feeding plans were as described below.

Feeding Intentions	Number	Percent
Breastfeed	26	81%
Both breast and bottle	3	9%
Bottle feed	3	9%
Undecided	1	1

Design, Measures and Procedures.

Data collection began prenatally and continued through the infant's first year: interview, questionnaire and observational methods were employed. Our focus was on mothers' personal characteristics and interpersonal relationships, feeding intentions and problems, and the feeding-related help and support she received from multiple sources. The various domains of measurement and timing of their collection are presented in Table 1. Observational measures are not included as they were not utilized for the purposes of this report.

Analyses.

Descriptive analyses were used to determine the incidence and duration of breastfeeding, the nature and frequency of feeding problems, as well as the sources and quality of feeding-related help received by the mothers in this sample during the course of their transition to parenthood. Additionally, correlation analyses were employed to examine the degree to which mothers' personal characteristics and social contexts were associated with their reports concerning the various feeding indices.

Table 1 INSTRUMENTS AND SCALES

I. Personal Characteristics

A. Developmental History (Questionnaire: Prenatal,9 mos)
Family-of-Origin Scale, Intimacy Subscale
(Hovestadt et al., 1985)

B. Personality (Q: P, 1, 4, 9 mos)
Neo-AC Neuroticism Scales, Anxiety and Depression Subscales
(Costa and McCrae, 1985)

C. Adjustment to Pregnancy (Q: P)
Prenatal Self-Evaluation Questionnaire
Well-Being of Self and Baby
Acceptance of Pregnancy
Identification of Motherhood Role
(Lederman, 1979)

D. Adjustment to Motherhood (Q: 1, 4, 9 mos)
Postpartum Self-Evaluation Questionnaire
Satisfaction with Life Situation/Circumstances
Confidence in Mothering Ability
Satisfaction with Motherhood
(Lederman, 1981)

II. Interpersonal Relationships

A. Marriage (Q: P, 1, 4, 9 mos)
Marital Satisfaction Scale (Huston, 1983)
Four-Factor Scale of Intimate Relations; Conflict, Love and Ambivalence
Subscales (Braiker and Kelley, 1979)

B. Social Network Relationships (Interview: P,4 mos)
Social Network Interview: Family and Nonfamily Members
Emotional Support
Satisfaction With Emotional Support
Satisfaction With Instrumental Support

III. Infant Feeding Issues

A. Infant Feeding Intentions and Personal History(I:P)

B. Success: Fulfillment of Feeding Plans (Q:·1, 4, 9 mos)
Exclusivity:Proportion of Feedings at Breast (Q: 1, 4, 9)

C. Infant Feeding Support System (Q: 1 mo)
Common Problems Encountered
Members, Nature and Quality of Support

RESULTS and DISCUSSION

Incidence and Duration of Breastfeeding.

Most mothers in the sample breastfed their infants initially (89%), with 69% still nursing at 1 month (Figure 1) By 4 months, approximately half the sample had weaned their infants to a bottle (53%) and by 9 months the majority of infants (66%) were not nursing. This trend is similar to infant feeding patterns in the US and Utah (Figure 2).

Sources, Nature and Quality of Feeding-Related Help Received During the First Month.

Mothers received different types of help from various sources, as summarized in Figure 3. In general, husbands and (grand)mothers provided the most help. Husbands were reported as "very helpful" by 77% of subjects, providing primarily emotional support and help around the house. Siubjects' mothers provided all types of support (information, emotional support, and help around the house), with 71% reported as "very helpful". Friends tended to provide information and emotional support; doctors and nurses provided primarily information.

This becomes important given that subjects' fulfillment of feeding intentions at 1 month was associated with help received from mothers (r=.53), doctors (r=.45) and nurses (r=.41). Help from nurses was also correlated with feeding according to plan at 4 months (r=.43). Additionally, helpfulness of subjects' mothers was associated with exclusivity of nursing at 1 month (r=.53). Subjects who were themselves breastfed as infants were more likely than those who were bottle-fed to report their own mothers as helpful .

Conversely, the quality of help received from friends was negatively correlated with fulfillment of feeding intentions at one month (r=-.45). This finding may be related to a negative association between the extent of non-family support reported prenatally by subjects and the exclusivity of breastfeeding at one and four months. Among these subjects, nonfamily support and help from friends appears to favor bottlefeeding and early termination of breastfeeding. Additionally, given the nature of our social support measure (the number of support persons was limited), it is likely that high levels of non-family support are indicative of low levels of support from family members.

Breastfeeding Problems Encountered During the First Month.

The major breastfeeding-related problem reported by subjects during the first month was uncertainty regarding an adequate milk supply (62% of respondents). This finding is not surprising, given that 50% of American mothers discontinue nursing for this reason. Other problems, encountered to a lesser degree, included breast problems ((41%), baby refused/uninterested (41%), mother too tired (21%), baby jaundiced (14%), mother too nervous (14%), baby not gaining weight (7%).

When asked why their feeding plans changed, reasons given by subjects who were unsuccessful at establishing lactation during the first month indicated a lack of basic information and assistance, along with medical practices that hinder effective breastfeeding, during the perinatal and neonatal periods. These findings, together with the indication that the nurse is an important support person influencing successful breastfeeding, imply that it is essential that maternity nurses and other support staff assisting new mothers be trained in the most effective methods of managing and promoting breastfeeding, if goals (on the personal or population level) are to be met.

Personal and Marital Factors Associated with Breastfeeding Success and Exclusivity.

These factors are summarized in Table 2.

Figure 1: Infant Feeding Method: IMDP

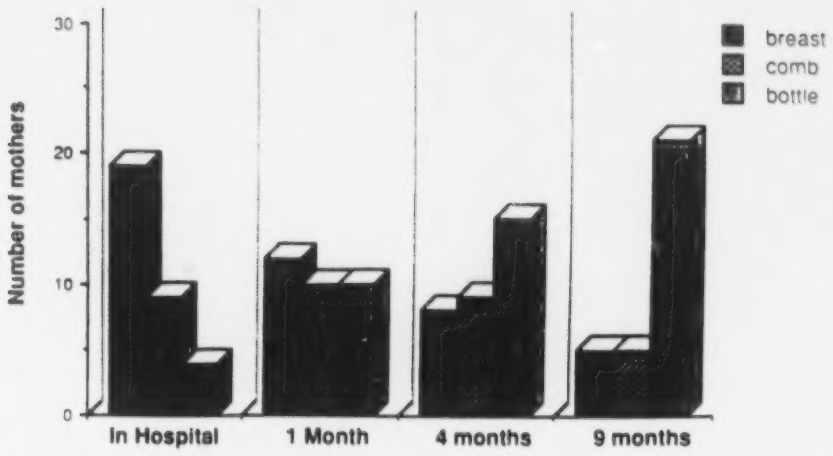

Figure 2: Breastfeeding Incidence & Duration

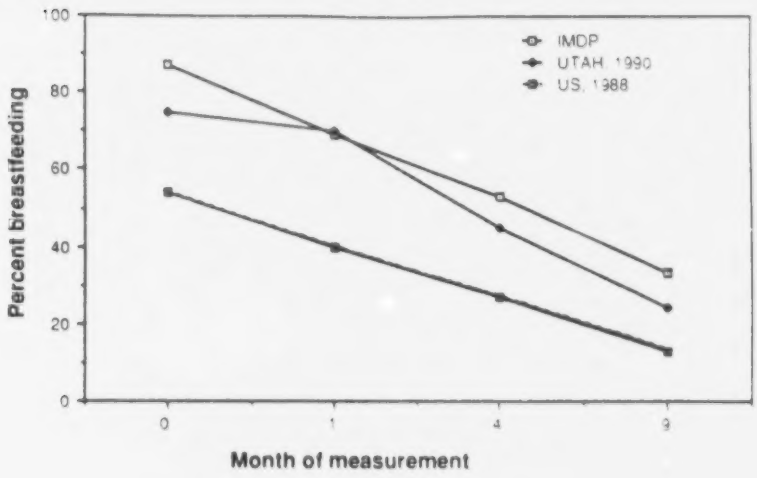

Figure 3: Source and Nature of Feeding-Related Help

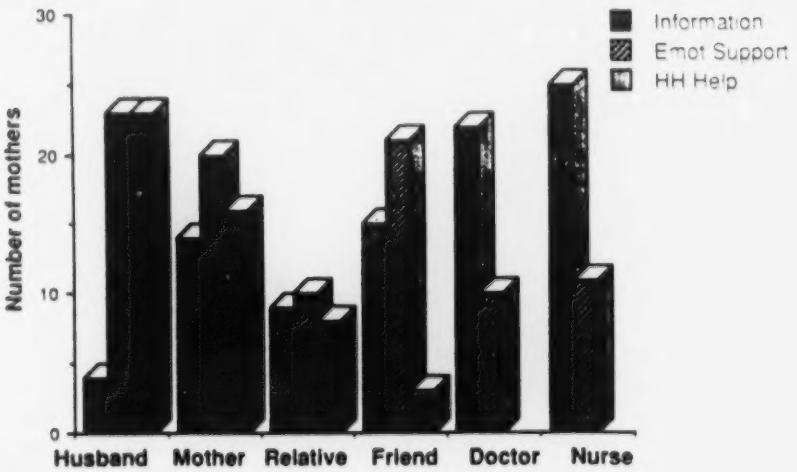

TABLE 2 PERSONAL AND SOCIAL FACTORS CORRELATED WITH FEEDING VARIABLES

BREASTFEEDING SUCCESS (Feeding according to plan)

	correlates	r
One Month:	Marital satisfaction (1 mo)	.35
	Intimacy and autonomy (prenatal)	.41
	Helpfulness of mother with nursing	.34
	Helpfulness of doctor, nurse	.45,.41
	Helpfulness of friend with nursing	-.45
	Non-family social support (prenatal)	-.36

EXCLUSIVITY OF BREASTFEEDING

	correlates	r
One Month:	Breastfed by mother as infant	.47
	Adjustment to pregnancy	.33
	Adjustment to motherhood (1 mo,9 mo)	.30,.33
	Anxiety and depression (P, 1 mo))	.31,.40
Four Months:	Adjustment to pregnancy (p)	.37
Nine Months:	Adjustment to pregnancy (p)	.41
	Adjustment to motherhood (9 mo)	.34
	Marital satisfaction (P, 9 mo)	.44,.37
	Intimacy (P)	.37
	Relationship with, and satisfaction with emotional support from mother	-.36
	Satisfaction with emotional support from husband	.31

Overall, breastfeeding success was associated with the quality of help received during the first month. In the short term (1 month), informational and maternal support, as well as marital satisfaction, appear to influence lactation success. In terms of duration, mothers who adjusted well to pregnancy and motherhood tended to nurse their babies more throughout the first year of life. Additionally, marital satisfaction and emotional support from husbands was related to more breastfeeding at 9 months. These results indicate that the male partner is the more important support person for the breastfeeding mother in the long term.

IMPLICATIONS

These results support the notion that a woman's decision to breastfeed is influenced by her personal characteristics (adjustment to pregnancy and motherhood) and social situation (marriage, in particular). Mothers who adjust well to pregnancy likely possess personal and social characteristics, as well as ability to mobilize support, that foster successful breastfeeding as well as adjustment to motherhood. Additionally, success at breastfeeding may itself contribute to greater maternal role satisfaction , as a factor that might be perceived by mothers as an indication of mothering ability in general.

Others have found an association between breastfeeding and role adjustment at 1 month (Virden, 1988) and with mother-infant mutuality (Virden, 1988; Dunn and Richards,1977). These factors are likely interrelated, in that role satisfaction may evolve as a consequence of the intensity of involvement, facilitating development of reciprocal interaction patterns, between breastfeeding mother and infant. Successful lactation becomes an emotionally satisfying experience for both mother and infant, during which mother anticipates infants needs and responds accordingly, thereby receiving positive reinforcement and validation of her role as mother. The mother who continues to nurse throughout the first year benefits from increased levels of interaction, as baby's personality, and the mother-infant relationship, unfold.

In terms of increasing the incidence and duration of breastfeeding, results of this study indicate that professionals working with new and expectant mothers to promote breastfeeding might focus their efforts on women who tend to be at risk for lactation failure: those who adjust poorly to pregnancy and/or lack marital satisfaction.

HEALTHY PEOPLE 2000
National Health Prom otion and Disease Prevention Objectives

14.9 Increase to at least 75 percent the proportion of mothers who breastfeed their babies in the early postpartum period and to at least 50 percent the proportion who continue breastfeeding until their babies are 5 to 6 months old. (Baseline: 54 percent at discharge from birth site and 21 percent at 5 to 6 months in 1988)

Breastfeeding is the optimal way of nurturing full-term infants while simultaneously benefiting the lactating mother. The advantages of breastfeeding range from biochemical, immunologic, enzymatic, and endocrinologic to psychosocial, developmental, hygienic, and economic. Human milk contains the ideal balance of nutrients, enzymes, immunoglobulins, anti-infective and anti-inflammatory substances, hormones, and growth factors. Further, breast milk changes to match the changing needs of the infant. Breastfeeding provides for a time of intense maternal-infant interaction. Lactation also facilitates the physiologic return to the prepregnant state for the mother while suppressing ovulation for many.

Although breastfeeding is strongly recommended, it is not appropriate for babies whose mothers use drugs illicitly, take more than minimal amounts of alcohol, or who receive certain therapeutic of diagnostic agents such as radioactive elements and cancer chemotherapy. Women who are HIV positive should also avoid breastfeeding.

Analysis of data from the Ross Laboratories Mothers Survey indicates that breastfeeding rates continue to be highest among women who are older, well-educated, relatively affluent and/or live in the western United States (71 percent at discharge from birth site and 31 perce :t at 5 to 6 months). Among those least likely to breastfeed are women who are low-income, black, less than age 20, and/or who live in the southestern United States. Low-income and black women should receive special attention because they have low rates of breastfeeding and are a significant proportion of all new mothers (approximately 25 percent and 17 percent, respectively).

An important barrier to acheiving this objective is the general absense of work policies and facilities that support lactating women. Given the large percentage of mothers of young children who work outside the home, efforts to increase breastfeeding should focus on convincing employers to provide assistance such as extended maternity leave, part-time employment, provision of facilities for pumping breast milk or breastfeeding, and on-site child care. Another important barrier is portrayal of bottle rather than breastfeeding as the norm in American society and the absense of breastfeeding incentives and support for low-income women. Overcoming these barriers will require public and professional education, improved support from health care providers and employers, and the involvement of culturally sensitive social, religious and professional groups. The media can play an important role by more frequently portraying breastfeeding as the norm.

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